

OPINION

**Authored by Assoc. Prof. Stanimir Mihailov Sadinov, Ph.D.
Associate Professor in professional field 5.3. "Communication and Computer
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**Concerning scientific works submitted for participation in competition for awarding
the academic position of "Associate Professor" in professional field
5.3 "Communication and Computer Engineering"; scientific specialty "Communication
Networks and Systems", which was officially announced in State gazette,
issue 58 from 23.07. 2019 and on the website of TU-Gaborovo to meet
the needs of department "Communication Technologies and Equipment"
which is a constituent unit of the Faculty of Electrical Engineering and Electronics;
with applicant: Chief Assistant Professor Ivelina Stefanova Balabanova, Ph.D.**

1. An overview of the content and results of the works submitted

The presented materials for participation in the competition include a total of 37 reviewed publications, 1 digest of thesis, 1 monograph and 5 teaching manuals. Four materials are placed in the IEEE database, 9 in SCOPUS and 1 in Web of Science. Two of the presented in the competition scientific papers have been published in international journals with "Impact factor". According to the abstract numbers, all publications and teaching manuals can be divided into two major thematic trends which are directly related to the announced competition for Associate Professor:

Telecommunications transfer lines and Optic communications.

- (No1,2 – papers with „Impact Factor”); (No1 - WoS);
- (No4,5,6,7 – SCOPUS);
- (No1,2,3,4,5,6,7,8,9,10,11,12,13,14,15,16,17,18,19,20,21,26,27) - publications outside of SCOPUS);
- (No4 – teaching manual).

Communications circuits and Noise filtering.

- (No1,2,3– SCOPUS);
- (No22,23,24,25 - publications outside SCOPUS);
- (No1,2,3,5,6 – teaching manuals and monograph).

Under the applied copyright form information about the materials of the competition, the applicant has a total of 27 citations of which 17 in Bulgarian and 10 in foreign editions. The candidate has participated and is involved as a member of the teams in a total of 5 research projects. The object of scientific-research and applied-scientific activities in the publications and projects are mainly theses in optical communications and telecommunication transmission lines, as well as studies in communication chains, digital processing and signal identification.

I consider that the materials submitted for participation in the competition of the candidate in terms of volume, structure and content are in the field of the competition and fully meet the criteria of Technical University - Gabrovo for occupying an academic rank of "Associate Professor".

2. General characteristics of the candidate's activities

2.1. Academic activity (work with students and Ph.D. students)

The applicant has submitted documents for an academic activity with the required academic horarium amount in Department of Communications Equipment and Technologies

in Technical University of Gabrovo. She has over 14 years' experience as a lecturer at a university and has consistently held of academic ranks of Assistant and Chief Assistant. At this time Chief Assist. Prof. Ivelina Balabanova, Ph.D. was participated in the development of 6 Bachelor's and Master's Degree programs, where she is the holder of 5 courses and one course project. The materials for development, implementation of equipment and construction of simulation models and practical models of 2 laboratories in DCET were presented.

Her work with students in Department of Communications Equipment and Technologies is also very active. That is confirmed by over 50 graduates from the Bachelor's and Master's Degrees and the participation under her supervision of nearly 20 students, attending the annual Student Scientific Session at TU - Gabrovo.

There are certificates, diplomas, documents, etc., attesting her advanced training and acquiring modern pedagogical skills. Therefore, I accept that the overall assessment of the candidate's teaching and academic activity meets the requirements of TU-Gabrovo and the Act for the Development of Academic Staff in the Republic of Bulgaria.

2.2. Scientific and applied-scientific activity

After getting acquainted with the submitted documentation and the information in it about the candidate's participation in research projects and her publishing activity, as well as with the requirements of the TU - Gabrovo for occupying an academic rank of "Associate Professor", I can ascertain the following:

The applicant has submitted a monograph in the field of the identification of signals with superposed noises in the communication systems. The total number of the presented scientific publications, other than those for the acquisition of "Doctor" degree, is 37. According to a recent reference, it can be seen that 9 are indexed in Scopus databases and 2 of them with Impact Factor (IF) in WoS databases. From the publications presented, 18 are articles in national and international journals and 19 in international conferences and annuals. Chief Assist. Prof. Ivelina Balabanova, Ph. D. has 5 freelance papers while in 18 publications is the first co-author. She is a co-author in 5 teaching manuals.

Based on the enumerated facts, I consider that the candidate meets the criteria for scientific-research and applied-scientific activity of TU - Gabrovo as my overall assessment is a positive.

2.3. Implementation activities

Data for participation about a membership of teams in 5 research projects with applied and implementation topics at University Center for Scientific Research and Technologies of TU – Gabrovo have been presented. The development and implementation of new simulation models and practical dummies in students' education is a good testimonial. A management contract with an external company to conduct experimental research to improve the quality of services offered by a regional telecommunications operator is available.

3. Contributions (scientific, applied-scientific, applied). Importance of the contributions to science and practice

I accept the reference made according to the candidate's contributions about the scientific work. All scientific papers are given in the field of professional trend 5.3. Communications and Computer Equipment. The contributions concern specific competencies related to the applicant's interests and her scientific development, scilicet: "Studies in the field of optical communications and telecommunications transfer studies" and "Studies in the field of communications circuits, digital processing and signal identification".

The reported scientific-research and applied contributions are directly related to the announced disciplines of the competition, respectively "Communications circuits",

"Telecommunications transfer lines". As result of check 8 citations in Scopus databases and Hirsch index - $h = 2$ were established.

I consider that the requirements about the quantitative indicators of the criteria for filling the academic rank of "Associate Professor" have been met. According to attendance in the WoS and Scopus databases, Chief Assist. Prof. Ivelina Balabanova, Ph.D. is recognizable in the scientific community in Bulgaria and abroad.

4. Assessment of the candidate's personal contribution

The scientific summaries illustrated by engineering methodologies of research, numerical experiments, real measurements and the simulation analysis are indisputable proof of the applicant's personal involvement in the applied-scientific and applied contributions reflected in the publication activity. Although many of the publications are co-authored, which is normal, I dare say that the results obtained are an act of Chief Assist. Prof. Ivelina Balabanova, Ph. D. and reflect her scientific upgrading facilities over the years, directly related to the specialty "Communication Networks and Systems".

5. Critical notes and recommendations

I have no critical remarks, but I can advise that the candidate to continue to make efforts and develop research projects with implement possibility to which be manager. The results obtained be presented and published in international conferences in the country and in peer-reviewed journals with Impact Factor (WoS) or Scopus rank.

6. Personal impressions

I know Chief Assist. Prof. Ivelina Stefanova Balabanova, Ph.D. from 15 years. I can be said that her attitude towards work, colleagues and students is at an excellent level. She always demonstrates a responsiveness and willingness in regard to all academic and scientific-research tasks assigned. Her professional, technical and communication competence is at a very high level. She possesses the necessary theoretical and practice skills, as well as manager abilities to perform the academic rank of "Associate Professor".

I believe that the available information related to the candidate's academic work and scientific production meets the requirements for occupying the academic rank of "Associate Professor" in accordance with the Act for the Development of the Academic Staff in the Republic of Bulgaria and the Statute-book for its implementation, as well as the Rules for the terms and conditions for the occupation of academic appointments and the acquisition of scientific ranks in Technical University of Gabrovo.

7. Conclusion:

In view of the above, I propose Chef Assist. Prof. Ivelina Stefanova Balabanova, Ph.D. to be elected as an "Associate Professor" in the field of higher education - 5. Technical Sciences, professional field - 5.3. Communication and Computer Engineering, specialty - "Communication Networks and Systems" (Communications circuits, Telecommunications transfer lines).

22.10.2019 y.

/signature/

Jury Member: / Assoc. Prof. Stanimir Sadinov, Ph.D. /